

useful work (Chapters XXI.-XXVIII., pp. 266-390). This Part iv., entitled "the examination of fossils," is a condensed and matter-of-fact treatment of the subject, and probably, as far as it goes, the best of its kind yet published. The relationship of palæontology to zoology, and the extent to which either need be studied by students working for a good pass-examination, or by amateurs earnestly desirous of getting some mastery of the subject, are kept well in view. How fossils are found preserved in the strata, and how they may be preserved when they have been found in quarries and other sections, form a brief introduction to the study of fossils. The chief genera, or generic types, of Invertebrata are then concisely treated of in the order of their natural groups, from the Protozoa to the Crustacea, with notes on their distribution in the Geological series. Chapter XXVIII. is the last (pp. 379-390), and consists of a condensed "list of characteristic invertebrate fossils" for each of the geological formations from the "Harlech series" of the Cambrian upwards to the "Chillesford Beds" of the Pliocene.

To those who are especially desirous of working out the history of the Earth by such elucidation as petrology can give, this manual will be a very great help. An acquaintance with strata in their orderly arrangements and in their disturbed conditions is supposed either to have been attained, or to be looked for in other handbooks. So also the history of the formation of the strata in successive ages. Fossil remains of the vertebrate animals and of plants are also left to other teachers. With these intentional omissions, for reasons intimated or given in full, the book is very good for its purpose, being full of well-digested information, for the most part from the newest sources of information, and often from the author's personal research.

Of the 136 woodcut illustrations, 17 are concerned with apparatus necessary to the mineralogist and petrologist; 28 illustrate microscopic sections of rocks; and 91 are given to the fossils. A careful Index completes the work.

The Honey-Bee: its Natural History, Anatomy, and Physiology.

By T. W. COWAN, F.L.S., F.G.S., &c. Houlston & Sons: London, 1890.

THERE is probably no other insect which can boast of so voluminous a literature as this; and for precisely this reason the present little volume, the latest addition, will be heartily welcomed. In the short space of some 190 small octavo pages the author gives a concise account of the chief facts in the anatomy and physiology of the Hive-Bee, as now established after the discoveries of older workers have been tried by the ordeal of modern methods of investigation. Except in the case of facts long ago accepted, the names of authorities for statements in the text are in all cases given, and

references are furnished to a bibliography at the end of the volume, containing the titles of the principal memoirs &c. which have been consulted. We are sorry to find that the author has not thought fit even to mention Cheshire's treatise on 'Bees and Bee-Keeping' in his bibliography, although it is certainly entitled to rank as the modern English classical work on the subject. The book is illustrated with a number of figures, most of which Mr. Cowan states in his preface have been drawn for the purpose, while his indebtedness for others is duly acknowledged. Mr. Cowan's terminology is at times a little shaky: it is unfortunate that his definition of the word "inosculation" (p. 58) should allow the reader to infer that a muscle is a "vessel;" and until we read this book we had never heard of *vasa differentia*, nor did we know that "Samenlister" was the German equivalent. The book is certain to be of much use to the comparative ontomologist as well as to the intelligent bee-keeper.

E. E. A.

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

February 25, 1891.—Dr. A. Geikie, F.R.S.,
President, in the Chair.

The following communication was read:—

"On a Labyrinthodont Skull from the Kilkenny Coal-Measures."
By R. Lydekker, Esq., B.A., F.G.S.

The Author describes a skull from Jarrow Colliery, which he refers to *Ichthyerpelum*, and names *I. hibernicum*, giving reasons for its specific distinctness from *I. (Erpetocephalus) rugosum*, Huxley. He compares it with allied forms, and believes that it is a member of the group *Brachyopina* of Miall, and if so that we have a number of forms belonging to a type which is unknown above the base of the Permian in Europe, but which survived to later times in the Indian, Australian, and Ethiopian regions.

March 11, 1891.—Dr. A. Geikie, F.R.S.,
President, in the Chair.

The following communication was read:—

"The Tudor Specimen of *Eozoon*." By J. W. Gregory, Esq.,
F.G.S., F.Z.S.

After careful examination of all the slides and figures, and after consideration of Sir W. Dawson's interpretation, the Author is